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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,011	11/18/2003	Wolfgang Burkhardt	AO736	4197

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EXAMINER

HINZE, LEO T

ART UNIT	PAPER NUMBER
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2854

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/716,011	Applicant(s) BURKHARDT ET AL.	
	Examiner Leo T. Hinze	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-12, 16 and 18 is/are rejected.
- 7) ☒ Claim(s) 3-5, 13-15 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040306.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 6-9 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Dubois, US 4,540,291 (Dubois).

a. Regarding claim 1, Dubois teaches a timepiece comprising a date display, wherein the timepiece comprises: a date display assembly comprising: a date ring (52, Fig. 4) having a plurality of digits thereon; a first gearing assembly comprising one or more wheels (51, Fig. 4), being meshingly coupled to the date ring so that the rotation of the one or more wheels causes the rotation of the date ring; and a stepping motor comprising a rotor (50, Fig. 4), wherein the rotor of the stepping motor is rotatably coupled to the at least one or more wheels of the first gearing assembly, wherein the rotation of the rotor causes the date ring to rotate; a date-keeping assembly operatively coupled to the date display assembly, comprising: at least a second gearing assembly comprising at least an hour wheel (31, Fig. 4) and a detection wheel assembly (33, Fig. 4) operatively coupled by rotation to the hour wheel, wherein at least certain rotational increments of the detection wheel, and the clockwise or counterclockwise direction thereof, causes the rotor of the stepping motor to rotate so that the date ring can be rotated in one of a clockwise or counterclockwise direction (col. 4, ll. 32-68); whereby the rotation of the hour wheel through a predetermined midnight position results in that

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the stepping motor causes the date ring to rotate a predetermined number of degrees, thereby advancing either in the forward or backward direction a displayed digit on the date ring (col. 4, ll. 32-68).

b. Regarding claim 2, Dubois also teaches wherein the date-keeping assembly comprises: at least a second stepping motor comprising a rotor (26, Fig. 4), wherein the rotor of the at least second stepping motor is operatively coupled to the hour wheel (see Fig. 4); wherein the hour wheel is rotateable by the rotation of the at least second stepping motor (col. 3, ll. 51-64).

c. Regarding claim 6, Dubois also teaches wherein the date-keeping assembly comprises an intermediate date wheel (32, Fig. 4) that is meshingly engaged between the hour wheel (31, Fig. 4) and the detection wheel (33, Fig. 4), such that: the rotation of the hour wheel causes the intermediate date wheel to rotate, and the intermediate date wheel imparts rotation to the detection wheel; wherein the intermediate date wheel is dimensioned to ensure that the hour wheel and the detection wheel rotate at a 2:1 ratio (col. 4, ll. 32-35).

d. Regarding claim 7, Dubois also teaches a casing, and a display window for displaying a date, wherein the date ring is aligned in the casing such that each of the plurality of digits is appearable in the display window (col. 5, ll. 51-68).

e. Regarding claim 8, Dubois teaches a timepiece comprising a date display function, wherein the timepiece comprises: a date display assembly comprising: a date ring (52, Fig. 4) having a plurality of digits thereon; a first gearing assembly comprising one or more wheels (51, Fig. 4), being meshingly coupled to the date ring so that the rotation of the one or more wheels causes the rotation of the date ring; and a stepping motor comprising a rotor (50, Fig. 4), wherein the rotor of the

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stepping motor is rotatably coupled to the at least one or more wheels of the first gearing assembly, wherein the rotation of the rotor causes the date ring to rotate; a date-keeping assembly operatively coupled to the date display assembly, comprising: at least a second gearing assembly comprising at least an hour wheel (31, Fig. 4) and a detection wheel (33, Fig. 4) operatively coupled by rotation to the hour wheel, and means for receiving signals based on at least certain rotational increments of the detection wheel (46, 47, Fig. 4), and wherein the means can maintain information regarding the clockwise rotation direction of the detection wheel, and further wherein the means processes such signals and based thereon, causes the rotor of the stepping motor to rotate in a clockwise rotation direction so that the date ring can be rotated in a clockwise direction; whereby the rotation of the hour wheel through a predetermined midnight position results in the date ring rotating a predetermined number of degrees, thereby advancing either in the forward or backward direction a displayed digit on the date ring (col. 4, ll. 32-68).

f. Regarding claim 9, Dubois also teaches wherein the date-keeping assembly comprises: at least a second stepping motor comprising a rotor (26, Fig. 4), wherein the rotor of the at least second stepping motor is operatively coupled by rotation to the hour wheel (31, Fig. 4); wherein the hour wheel is rotateable by the rotation of the at least second stepping motor.

g. Regarding claim 16, Dubois teaches a method of maintaining and displaying at least one of date and day information in a timepiece, wherein the timepiece comprises: a date display assembly comprising: a date ring (52, Fig. 4) having a plurality of digits thereon, a first gearing assembly comprising one or more wheels (51, Fig. 4) being meshingly coupled to the date ring so that the rotation of the one or more wheels causes the rotation of the date ring, and a stepping motor

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comprising a rotor (50 Fig. 4), wherein the rotor of the stepping motor is rotatably coupled to the at least one or more wheels of the first gearing assembly, wherein the rotation of the rotor causes the date ring to rotate; a date-keeping assembly operatively coupled to the date ring assembly, the date-keeping assembly comprising: an hour wheel (31, Fig. 4), and a detection wheel assembly (33, Fig. 4) operatively coupled by rotation to the hour wheel, wherein at least certain rotational increments of the detection wheel assembly, and the clockwise direction thereof, causes the rotor of the stepping motor to rotate so that the date ring can be rotated in a clockwise direction, wherein the method comprises the steps of: determining that the detection wheel assembly has been rotated a certain number of rotational increments in the clockwise direction; and causing the rotor of the stepping motor to rotate so that the date ring can be rotated in a clockwise direction (col. 4, ll. 32-68).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and

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invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 10-12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubois in view of Kitajima et al., US 6,240,052 (Kitajima).

a. Regarding claim 10:

Dubois teaches a method of maintaining and displaying at least one of date and day information in a timepiece, wherein the timepiece comprises: a date display assembly comprising a date ring (52, Fig. 4) having a plurality of digits thereon, a first gearing assembly comprising one or more wheels (51, Fig. 4) being meshingly coupled to the date ring so that the rotation of the one or more wheels causes the rotation of the date ring, and a first stepping motor comprising a rotor (50, Fig. 4), wherein the rotor of the first stepping motor is rotatably coupled to the at least one or more wheels of the first gearing assembly, wherein the rotation of the rotor causes the date ring to rotate; a date-keeping assembly operatively coupled to the date display assembly, the date-keeping assembly comprising an hour wheel (31, Fig. 4), and a detection wheel assembly (33, 46, 47, Fig. 4) operatively coupled by rotation to the hour wheel, means for signaling the stepping of the first stepping motor, wherein at least certain rotational increments of the detection wheel assembly, and the clockwise direction thereof, provides signals to the means to cause the rotor of the first stepping motor to rotate (col. 4, ll. 32-68); and at least a second stepping motor comprising a rotor (26, Fig. 4), wherein the rotor of the at least second stepping motor is operatively coupled by rotation to the hour wheel (31, Fig. 4), wherein the hour wheel is rotateable at least in part by the rotation of the second

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stepping motor; wherein the rotation of the rotor of the second stepping motor is caused by and under the control of the means.

Dubois does not teach determining when the means has stopped the rotation of the rotor of the second stepping motor, and commencing a measuring of an elapsed period of time; wherein the commencement of the measurement step is independent of the time of day; determining when the elapsed period of time is at least essentially equal to 24 hours; and stepping the rotor of the first stepping motor in a direction so that the date ring rotates and the digit on the date ring showing the next correct date is displayed.

Kitajima teaches an electronic watch with a calendar, including a date ring (70, Fig. 5), and a method of maintaining and displaying at least one of date and day information in a timepiece, including determining when the means has stopped the rotation of the rotor of the second stepping motor, and commencing a measuring of an elapsed period of time; wherein the commencement of the measurement step is independent of the time of day; determining when the elapsed period of time is at least essentially equal to 24 hours; and stepping the rotor of the first stepping motor in a direction so that the date ring rotates and the digit on the date ring showing the next correct date is displayed (col. 3, ll. 13-48). Kitajima teaches that this method is advantageous for saving power (col. 1, l. 13) and avoiding the need to correct the date after stopping the hour and minute hands long time (col. 1, ll. 24-27).

It would have been obvious for a person having ordinary skill in the art at the time the invention was made to modify Dubois to include determining when the means has stopped the rotation of the rotor of the second stepping motor, and commencing a measuring of an elapsed period

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of time; wherein the commencement of the measurement step is independent of the time of day; determining when the elapsed period of time is at least essentially equal to 24 hours; and stepping the rotor of the first stepping motor in a direction so that the date ring rotates and the digit on the date ring showing the next correct date is displayed, because Kitajima teaches that this method is advantageous for saving power and avoiding the need to correct the date after stopping the hour and minute hands long time.

b. Regarding claim 11, the combination of Dubois and Kitajima teaches all that is claimed as discussed in the rejection of claim 10 above. Kitajima also teaches commencing a subsequent measurement of an elapsed period of time while the means is still not providing signaling to rotate the rotor of the second stepping motor; determining when the elapsed period of time measured in the subsequent measurement is at least essentially equal to 24 hours; and stepping the rotor of the first stepping motor in the direction so that the date ring rotates and the digit on the date ring showing the next correct date is displayed (“drive the date wheels 52 every 24 hours,” col. 3, ll. 46-48).

c. Regarding claim 12, the combination of Dubois and Kitajima teaches all that is claimed as discussed in the rejection of claim 11 above. Kitajima also teaches including the steps of: continually commencing additional measurements of elapsed periods of time as long as the means is not providing signaling to rotate the second stepping motor; and stepping the rotor of the first stepping motor, at least essentially every 24 hours in the direction, so that the date ring rotates and the digit showing the next correct date is displayed (“drive the date wheels 52 every 24 hours,” col. 3, ll. 46-48).

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d. Regarding claim 18, the combination of Dubois and Kitajima teaches all that is claimed as discussed in the rejection of claim 10 above. Dubois also teaches wherein the means is a microcontroller or a quartz analog circuit (controller 23, Fig. 2).

Allowable Subject Matter

6. Claims 3-5, 13-15 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

a. Regarding claim 3, the prior art of record does not teach or render obvious a timepiece having all of the structure as claimed, including a detection wheel comprising a first tab, a second tab, and a third tab, and including the claimed relationship between the tabs and the three deflectable fingers of the separate spring assembly.

b. Regarding claim 13, the prior art of record does not teach or render obvious a method of maintaining and displaying date information in a timepiece having all of the steps and structure as claimed, including while the means are not providing signaling to rotate the second stepping motor and the setting stem is engaged with the gearing arrangement, adjusting the day disc while blocking rotation of the date ring until the day disc has been rotated the calculated number of days.

c. Regarding claim 17, the prior art of record does not teach or render obvious a method of maintaining and displaying date information in a timepiece having all of the steps and structure as claimed, including a spring assembly comprising at least three deflectable fingers, and the detection wheel assembly comprises a first tab, a second tab and a third tab, wherein each tab is positioned

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such that (i) only the first tab is contactable with the first finger; (ii) only the second tab is contactable with the second finger; (iii) only the third tab is contactable with the third finger.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (571) 272-2167. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo T. Hinze
Patent Examiner
AU 2854
25 May 2005


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